

QUESTIONS TO BE ANSWERED TO DETERMINE IF COMMUNICATIONS CENTERS ARE ADEQUATELY SERVING THEIR SERVICE AGENCIES & THE POPULACE.

EXECUTIVE DEVELOPMENT- 2000

BY: Charles E. Garrity III
Fire Coordinator
Berkshire County Fire
Berkshire County, Massachusetts

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ABSTRACT

The public and public safety agencies have come to expect certain standards of care regarding delivery of service from 9-1-1 dispatch centers including but not limited to per-arrival instructions via EMD (Emergency Medical Dispatch). The Dispatch Centers in Berkshire County share many similarities with dispatch centers across the nation. The research analysis has shown a general discontent of the county fire service agencies with the dispatch centers in Berkshire County. The research examined a number of factors in regards to the dispatch agencies and the relationship to public and public safety delivery of service. A number of these factors affecting service translate easily from a local level to a national level.

The purpose of this research project was to identify the factors both positive and negative that impacted delivery of dispatch services. Once factors were identified, the ultimate goal was to recommend such actions as to implement the positive and eliminate the negative factors in Berkshire County, Massachusetts.

This paper utilized a combination of historical and descriptive methods to answer the following research questions:

1. What factors, positive and negative impacted the delivery of dispatch services in Berkshire County dispatch centers?
2. What have other dispatch centers done to improve dispatch services, particularly in the area of fire & EMS?
3. What technologies, equipment, or processes were available to improve dispatch service?
4. What was considered to be an acceptable standard of care for dispatch centers?

The literature review was completed with resources from the National fire Academy's Learning resource center, the Authors library, the internet, and information collected at the Association of Public Safety Communicators Organization International Conference in Boston.

Surveys were developed and distributed to the Berkshire County Fire Chiefs, and to the Franklin County Fire Chiefs as a comparison group. The results of the surveys, corresponding literature review and other research demonstrate the need for change. The results paralleled a number of factors that have created a staffing crisis in dispatch centers across the nation. Similar factors relate to a corresponding poor quality of dispatch services to the fire departments in Berkshire County. There are no dispatch centers in Berkshire County with a fully implemented emergency medical dispatch program and companion quality assurance program. Berkshire County dispatch centers lack continuing education training, supervision, adequate pay and support.

The resulting recommendations would be a plan that includes: (a) consolidation of communication centers (b) full utilization of EMD programs (c) instituting quality assurance programs (d) increasing dispatcher pay (e) increase dispatcher training criteria (f) instituting continuing dispatcher education (g) professional dispatcher certification (h) inter-agency training (i) increasing dispatcher support (j) increasing dispatcher professionalism (j) increasing dispatch center staffing levels (k) institute dispatcher customer service training (l) install technological improvements.

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INTRODUCTION

The public and public safety agencies have come to expect certain standards of care regarding delivery of service from 9-1-1 dispatch centers including but not limited to pre-arrival instructions via (EMD) Emergency Medical Dispatch. Many dispatch centers provide a level of service that is below what is considered to be acceptable. This project specifically targeted the dispatch centers in Berkshire County, Massachusetts in regards of delivery of services.

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This project utilized a combination of historical and descriptive methods to answer the following research questions:

1. What factors, positive and negative, impact the delivery of dispatch services in Berkshire County dispatch centers?
2. What have other dispatch centers done to improve dispatch services, particularly in the area of fire & EMS?
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BACKGROUND & SIGNIFICANCE

On March 30, 2000 Governor Cellucci of Massachusetts signed legislation entitled (EMS) Emergency Medical Services 2000 into law. This law is a major update and expansions of an earlier act known as (M.G.L. c. 111C) Massachusetts General Law Chapter 111C. This law requires the office of EMS to develop a number of new programs and enact regulations for implementation. Several areas of this legislation will effect the 265 (PSAPs) Public Safety Answering Points serving the 365 cities and towns in the Commonwealth. One area that affects PSAPs is the requirement for each PSAP to EMS delivery by developing and utilizing some type of EMD program.

Although EMD is an extremely important part of the function that telecommunicators play, it is only one factor of many. Technology is driving communications personnel to a higher level of proficiency requirements and increased professionalism has been necessitated. The general public and public safety are demanding more professional communications personnel. In 1999 the (APCO) Association of Public Safety Communicators Organization International identified a PSAP staffing crisis across the nation. This continues to affect PSAPs. The factors associated with the staffing crisis cry out for PSAP reform. The trends towards EMD programs, quality assurance and improvement programs, accreditation, and customer service requirements will continue to increase. The PSAPs that embrace these trends will not only survive but will also set the stage for the future.

Berkshire County, Massachusetts, like many areas of the country, has a number of small one-person operation PSAPs. Other areas of commonality involve PSAPs that are under-staffed, under-trained, under-paid and often under-appreciated. These factors contribute to the staffing crisis experienced nationwide in communication centers. Issues such as social, economic, technological, and public perception pressure are changing what the populace expects of area PSAPs.

Berkshire County, Massachusetts has eight PSAPs that process 9-1-1 calls and dispatch police fire, and EMS agencies. The total population served by Berkshire County PSAP's is 136,937 residents according to the 1999 census. Berkshire County encompasses 947.14 square miles, and has a property valuation of \$8,424,997,800. The author is the county fire coordinator responding to fire & rescue incidents involving three or more communities. This position necessitates interaction with all eight PSAPs and all area fire, rescue, police and EMS agencies. There are no PSAPs in Berkshire County that have implemented an EMD program to provide scripted pre-arrival instructions on every EMS call and to determine response levels. None of the PSAPs in Berkshire County have a (QA) quality assurance program, or have identified plans to migrate in the direction of QA or other current trends. An overview of the operations of PSAPs of Berkshire County is listed below:

Adams PSAP serves four agencies within the community of Adams with a population of 9,252. The starting pay is \$ 10.70 per hour. The required training includes (CJIS) Criminal Justice Information System, (SETB) State Emergency Telecommunications Board 9-1-1, one week *Powerphone* basic Police, Fire, EMS training, (CPR) Cardio-Pulmonary Resuscitation and first responder training, and on the job training as required. The minimum staffing requirement is one dispatcher per shift. While most dispatchers are EMD trained, a system has not been implemented. There is no requirement for dispatchers to utilize the EMD card set. A Police Sergeant supervises the Adams dispatch center.

Dalton PSAP serves three communities and nine emergency agencies. The communities served are Dalton, Hinsdale, and Windsor. The total population served is 10,045. The starting pay is \$ 9.99 per hour, required training CJIS, SETB 9-1-1, alarm monitoring and 8 to 20 hours on the job training. The staff consists of three full time, two - $\frac{3}{4}$ time, six per diem. The minimum staffing requirement is one dispatcher per shift. The dispatch supervisor works 24 hours a week as a line dispatcher. The on-duty dispatcher is also responsible for greeting the public 24 hours a day, filling out State Fire Reports, and ambulance run sheets.

Great Barrington PSAP serves two communities and five agencies. The communities served are Great Barrington and Sheffield. The dispatchers are sworn police officers and the total population served is 10,822. The dispatchers required training includes CJIS, SETB 9-1-1 and criminal justice training. There are no EMD certified dispatchers and the continuing education program targets law enforcement issues. The Great Barrington police chief is in charge of the dispatch center.

Lee PSAP serves the two communities, and five agencies of Lee and Tyringham. The total population served is 6,287. The starting pay is \$ 9.28 per hour, the required training includes CJIS, SETB 9-1-1, and 30 hours on-the-job training. The minimum staffing requirement is one dispatcher per shift. There is no continuing education program, and there are no EMD certified dispatchers. The dispatch supervisor is a part time position held by the head of the ambulance service. The on-duty dispatcher also greets the public 24 hours a day, and is responsible to maintain the lost and found.

North Adams PSAP serves three Communities and six agencies - Clarksburg, North Adams and Stamford, VT. The total population served is 17,192. The starting pay is \$ 7.25 per hour. The required training includes CJIS, SETB 9-1-1, CPR, First Responder, Medical Priority EMD. Workers include five full-time, two part-time. The minimum staffing level is one, most of the time. Wednesday through Sunday typically a second person is on the day shift; the working dispatch supervisor. If a vacancy occurs when the second person is working, it is typically not filled. While most dispatchers are EMD trained, a system has not been implemented and it is not necessary to utilize the EMD card set. There is no continuing education program.

Pittsfield PSAP serves four agencies within the city of Pittsfield. The total population served is 43,465. The starting pay is \$ 11.62 per hour. There are 15 full-time dispatchers, and minimum staffing is three. Required training includes CPR, Powerphone EMD, CJIS, SETB 9-1-1, on-the-job training as needed. While most dispatchers are EMD trained, a system has not been implemented and it is not necessary for dispatchers to

utilize the EMD card set. There is no continuing education program. A police sergeant supervises the dispatch center.

Williamstown PSAP serves one community, three agencies in Williamstown. The total population served is 8,368. The starting pay is \$10.14 per hour, and the required training includes CJIS, SETB 9-1-1, alarm monitoring and 40 hours on-the-job training. The staff includes three full-time, three part-time, and three per diem dispatchers. The minimum staffing requirement is one dispatcher per shift. There are some EMD trained dispatchers, however there is no requirement to utilize the card system. There is no continuing education program for dispatchers. The on-duty dispatcher greets the public 24 hours a day, and provides clerical support to the Police Chief and the full police department, including paying bills, payroll, and filling out crime reporting forms for the state.

Berkshire County PSAP serves the 23 communities and 49 agencies of Alford, Becket, Blandford, Cheshire, Egremont, Florida, Hancock, Lanesborough, Lenox, Middlefield, Monterey, Mt. Washington, New Ashford, New Marlborough, Otis, Peru, Richmond, Sandisfield, Savoy, Stockbridge, Tolland, Washington, and West Stockbridge, with a total population served of 31,506. The starting pay is \$ 9.79 per hour. The required training is CJIS, SETB 9-1-1, and on-the-job training. Staffing is five full-time and one part-time dispatcher. The minimum staffing is one dispatcher per shift, with the exception of a second dispatcher from 14:00 until 22:00 hours. However, when a vacancy occurs during a time that two dispatchers are working, the vacant shift may or may not be filled. While all dispatchers are EMD trained a system has not been implemented and it is not necessary to utilize the EMD card set. There is no continuing education program in place. The dispatch center supervisor is a part-time position, and typically spends a couple hours a week or less at the dispatch center. The day dispatcher on Monday through Friday is also responsible for providing Superior Court, District Court, Probation, and other affiliating courts III (Federal Bureau of Intelligence checks) and BOP (Board of Probation checks) information when requested. Additionally, the Victim Witness Hotline is answered after

hours. A CMED is also operated by the dispatchers as a liaison between ambulances in the county and different hospitals.

This research was conducted as a required portion of the *Executive Development* class at the National Fire Academy. According to Dr. W. Edwards Deming in the Service Quality & Marketing portion of the *Executive Development* course text “Quality is the conformance to standards” (p. SM 10-29). The text also makes the following statement regarding customer expectations: “ True service quality is achieved by creating predictably positive experiences and by continually striving to exceed the customer’s expectations”. This project relates to the course work on both service quality and marketing. Many fire service agencies are migrating towards a customer service paradigm. This project demonstrates the necessity of strengthening communications center operations for the fire service to achieve this goal.

LITERARY REVIEW

Citizens’ Expectations of Public Safety Communications Centers

According to the customer service article in the *Public Safety Communications* (2000), the public’s expectation of service from communications centers and emergency services in general is much higher than their expectations from other governmental agencies. The article continues to state that the public perception, as defined by television and movies, only further increases their expectations from PSAPs. “These factors combine to mean that public safety communicators – are expected to meet or exceed the public’s demands for exceptional customer service” (p. 98).

As stated by Patrick Lanzetta in 1996, “ It has now come to the point that the average citizen calling 9-1-1 with a medical emergency expects to be told what to do until responders arrive on scene.” This expectation of service largely determines what is known as a “standard of care” (p. 26). Dispatch Agencies that do not provide

this level of service will be exposed to increased liability. A trained telecommunicator must give scripted pre-arrival instructions, and they must follow the scripted questions exactly to reduce potential liability exposure. Continuing education with performance evaluations that are outcome-based will help in guiding the EMS and EMD system towards realizing its full potential. Many of the 9-1-1 calls received are very complex in the response that is required. It is not uncommon for a call that originates as a medical call to transition into a crime scene, a hazardous materials incident or possibly both. The development, implementation, and utilization of “(QA) Quality Assurance and (QI) Quality Improvement programs are essential to the future health of the profession” according to Lanzetta (p. 28). There are many challenges ahead with medical dispatch programs, and EMD professionals must be recognized for the duties they perform.

According to a story posted on the Clawson (1991), in March of 1990 a 13 year old girl found her 18-month-old sister floating lifeless in a pool. She immediately removed her sister from the pool and called 9-1-1. Although she pleaded repeatedly for pre-arrival instructions “can’t you tell me what to do” (p. 32) none were provided. The girl’s sister was transported to a hospital where she remained in a vegetative state for a year prior to dying. The mother of the children was interviewed and stated “I was like most people, I expected them to give CPR instructions.” The parents later sued the city for their role in the 18-month-old daughter’s death. The parents subsequently formed a citizens group called (PANDA) Parents Against Negligent Dispatch Agencies. The parents perceived that pre-arrival instructions would routinely be given. However, in the same article it references the chairman of the California State Firefighters Association’s EMS committee. The chairman estimates that only approximately 20% of the dispatch centers nationwide provide pre-arrival EMD instructions.

In the (FEMA) Federal Emergency Management Agency (USFA) United States Fire Administration publication *Strategies For Marketing Your Fire Department Today And Beyond* , it speaks about several ways to improve fire departments’ image and public relations. Many citizens’ experience what they believe to be an urgent need for assistance. Due to the relative ease that 9-1-1 can be contacted, fire departments must work

with communications centers to develop guidelines where citizens can be rerouted from the 9-1-1 lines to an alternate number for services. This provides a conduit for citizen problem resolution, enhances the fire service image, and relieves the unnecessary burden placed 9-1-1 call-takers.

Public Safety Expectations of Public Safety Communications Centers

According to Frank Schaper in his commentary in *9-1-1 Magazine* March/April 1998. The competency of the dispatching staff should be one of the least worries of an incident commander at an emergency incident. He further commented about the fast paced, high stress nature of the job of a dispatcher. Incidents brought to a successful conclusion reflect directly on the quality of the dispatchers.

Tod W. Burke expresses his opinion in the *FBI Bulletin* October of 1995. “Dispatchers must be able to handle incoming calls, dispatch officers, transfer calls to appropriate agencies, coordinate multiple units for emergency calls, record computer requests by field units, and in some cases provide written reports” (p. 1). It is understood that they must routinely “ provide immediate emergency care instructions to panicked, distressed, and highly emotional callers” (p. 2). Dispatchers must further complete all these tasks remaining reassuring and calm. Beyond that, dispatchers play a vital role in ensuring the safety of officers and that of the general public. The article also states that responders, administrators, and the general public often misunderstands the critical functions that dispatchers perform.

In 1996 Alleghany County, Pennsylvania began the task of consolidation plans for effective 9-1-1, according to W. Brad Magill (2000). Pennsylvania had established the PSAP requirements to be based on a minimum population of 100,000, ensuring effective, cohesive communications. Mr. Magill continued on to explain that many communities fought to save the system that they currently had. He found that having fewer PSAPs was more cost effective, they were better managed and more able to adapt and purchase up-to-date

PSAP technology. Although great resistance was initially experienced, already an initiative has begun towards further consolidation.

According to Clawson, Martin, Cady, Sinclair (1999) while almost 90 percent of fire departments across the United States have a role in providing pre-hospital medical care and/or transport, less than 50 percent have some type of EMD program. Of those agencies that have an EMD program, many are using outdated or ineffective methods. It is not uncommon to find a dispatcher without the proper tools or training at the center of a modern, expensive and specialized public safety system. These systems often have well-trained responders that cannot perform to their full potential due to the constraints of dispatchers that are ill-trained and lacking proper resources. It is essential if the fire service is going to meet the challenges of the future that it adopts some type of sophisticated EMD program to ensure the most efficient use of resources. The dispatcher has an essential role in pre-hospital EMS, often deciding whom, how, and when to respond. The combination of a trained EMD dispatcher and emergency caller embraces the dispatch life support concept. This ensures the best chance for a viable patient for responders when they arrive. “If the fire service and other public safety agencies are truly committed to the quest to provide efficient care and customer service to the citizens they serve, continual reassessment of the dispatch systems role is necessary to plan for the increasing demand” (p. 51).

Factors Affecting Communications Centers Operations

Lynn Klein wrote (1998) “ The people who are responsible and accountable for the processing of calls and deploying staff and resources to people in need are the vital link of any emergency service” (p. 16). Many communications centers have been the dumping grounds for those that are “disabled, dysfunctional, disqualified, disinterested or disgruntled” (p. 16). The trends have been changing to demand that the selection

criteria for communications personnel be as strict as that for front line providers, such as police officers, (EMTs) emergency medical technicians, and firefighters.

Moriarty and Field (1988) expressed the opinion that there are several stress factors that are unique to Public Safety telecommunicators. These include intense decision making, with competing simultaneous demands. These telecommunicators must work in an environment where they may experience long periods of inactivity and then must be fully prepared to suddenly adapt to highly stressful incidents. They found that telecommunicators must extract information from angry, abusive, condescending callers, and properly determine the circumstances without becoming rude or unprofessional. The telecommunicators are also placed in a situation where they must triage calls for competing resources, while they are typically untrained or do not have the procedures to effectively manage these situations.

Burke (1995) stated that while many occupations are stressful, dispatchers have unique and elevated susceptibility to stress. These factors include low pay, low social status, and a lack of departmental support, inadequate training, lack of supervision and guidance. Other factors include lack of personal development potential, shift work and negative citizen interactions.

Guyan (1999) expressed that “ The safety and lives of the public and the professionals responding to emergencies depend on proper training and education, along with trained and experienced leadership backing them up” (p. 51). The article continues that while many governmental entities mandate certification and minimum training levels for police officers, firefighters and EMTs, few government entities mandate dispatcher training. Of the agencies that do have mandated training, few have continuing education programs to ensure that dispatchers remain current and energized.

Pivetta (2000) wrote that there are several factors that contribute to the staffing crisis facing communications centers. Factors include a lack of effective recruiting and the time and money it takes to train

dispatchers. Another factor includes competition with other businesses, as many candidates can get better pay and benefits working for a non-governmental agency or business.

The author attended the seminar *9-1-1 Center Staffing: A Crisis in Public Safety* at the APCO conference in Boston, August 13-17, 2000. The following information was presented: Approximately 70 percent of respondents indicated they believed that the starting pay rate for entry-level communication personnel was inadequate. Additionally 75 percent indicated that they had between one and five vacant positions, and 14 percent stated they had between six and ten vacant positions, and another nine percent had between 11 and 20 vacant positions. This information is coupled with significant turnover rates. Sixty percent of the respondents indicated that the entry level training process produced inadequately trained telecommunicators. Fifty seven percent of those cite low pay in relation to responsibilities as a reason to leave their present position. Additional information may be obtained from entire report that will be attached as appendix D.

According to *Dispatch Monthly* (2000) there are few methods that can be utilized to determine the number of call takers that would be required given a certain number of calls, and expected duration of the calls. These methods are still an approximation only as there are so many variables when attempting to estimate staffing requirements. One variable is call takers and dispatchers; do call takers take the call and dispatch, or are there separate call takers and dispatchers needed in the agency. Some other factors include number of radio channels, clerical and other associated tasks, number of warrant and registry checks, etc.

Emergency Medical Dispatch Benefits & Requirements Including Quality Assurance Programs

Clawson (1989) wrote that one of the pivotal moments for EMD occurred at a convention in 1988 when the (NAEMSP) National Association of Emergency Medical Services Physicians issued the following

statement: “ Pre-arrival instructions are a mandatory function of EMD. In essence, the EMD is the “first” first responder and through immediate action can effectively eliminate the deadly “four minute” or more gap at the beginning of the response. Standard telephone instructions are safe to give and in many cases a moral necessity.” NAEMSP an organization made up of medical directors from across the United States. The NAEMSP stated that EMD is a standard of care. An integral portion of EMD certification involves continuing education. It is essential that training be a continuing, ongoing process to ensure that the dispatchers continually improve their EMD skills. By providing pre-arrival instructions the caller and the EMD dispatcher work to ensure patient viability for the EMS personnel responding. Without this necessary intervention the patients may experience brain damage or death prior to the arrival of the first EMS units.

According to Dave Harrawood, Patrick Shepler, and Michael Gunderson (1995) there are three areas of liability and risk concern associated with dispatch. The first involves the provision for pre-arrival instructions. Delivering pre-arrival instructions is a standard of care, and failure to do increases liability for the dispatch center. The second is concerned with dispatch prioritization, or call triage. Without a system of call triage, calls are handled on a first-come first-served basis rather than being dispatched by greatest need first. Without call triage, deaths may result because of unit delay with non-life threatening calls. The third involves unit response, the use of lights and siren and due regard. There are thousands of EMS response collisions each year, many of which are preventable. Without a system for determining response levels, units respond to every call the same way regardless of call severity. This increases liability to the EMS service and to the dispatch center.

Clawson (1989) asserted that in 1988 the NAEMSP issued one of the most important statements to date. The position taken by the medical directors of North America in effect became the first official “standard of care” in regards to EMD. This standard outlines the key components of an effective EMD program. To have an effective EMD program the NAEMSP’s position is that QA is an integral part and must be incorporated into the program. QA is essential for ensuring that the dispatchers are adhering to the scripted card set, and for a means

of providing dispatcher feedback and positive reinforcement. A QA program can also be utilized to determine if dispatchers need additional or remedial training.

On September 5, 2000 Robert Lopez, Rich Connelly reported in the *LA Times* a story citing three recent cases where dispatchers that failed to follow EMD guidelines have been tied to deaths. According to the report, incorrect responses were dispatched 160 times over the past 60 days, increasing patient mortality and exposing the city to additional liability. The Fire Chief has indicated that an overhaul of the EMS dispatch operation is scheduled. The goal is to seek EMD accreditation, which would require the dispatchers to ask medical questions greater than 90 percent of the time, currently the average is less than 48 percent.

In an interview with Dave Larton (1998), Kevin Willett made the following statement: “ Unfortunately the only required QA (Quality Assurance) has been in the EMD arena. That’s a start, but not good enough. We need to demonstrate a desire to deliver quality service” (p. 58). The QA and customer service philosophy must extend into all operations of the dispatch center. Performance standards must be developed and adhered to. The QA program must be positive in nature to be effective.

Alternatives For Dispatch Center Operations

In 1997, (MCIS) MCI Systemhouse became the first private contractor to operate a 911 PSAP in the United States according to Dave Larton (1999). In his article he quotes Richard E. Dale from MCIS stating that their agency works to best serve customer requirements. “These range from consulting/assessment and design services to technology deployment to operational services and management. Outsourcing an emergency communications system is the ultimate practical solution to shrinking budgets and increasing demands” (p. 40). The article continues that their solution allows communities to have current technology, single source accountability, and allow the community to focus on other public safety resources. As of 1999 MCIS has two

outsourcing contracts and two others in negotiation. While outsourcing emergency communications is a fairly common practice in Great Britain, it has not been well received in the United States.

Increasing Professionalism in Public Safety Communications

In 1996 APCO and the (CALEA) Commission on Accreditation for Law Enforcement Agencies combined resources to establish criteria for Public Safety accreditation. In March of 1999 The Northwest Bergen Central Dispatch became the first communications agency in the country to receive CALEA accreditation according to Jennifer Hagstrom (1999). The accreditation process offers several benefits including increased preparedness, development on policies from everything from sexual harassment to preventing static electricity. The process allows dispatchers to perform their jobs more efficiently, ensures they are better informed, and provides increased protection in liability situations. By June of 2000 three dispatch centers in the United States had fulfilled the stringent accreditation requirements according to the CALEA online newsletter. Accreditation is an award that symbolizes professionalism, excellence and competence. The process is intensive and voluntary, and the costs are determined by the size of the agency. Hagstrom continues that the CALEA accreditation process is designed to recognize professional excellence and to further superior public safety communications.

Steven Carlo (2000) stated that the present is the time for dispatchers to mature to “embrace the profession of telecommunications” (p. 1). Dispatchers have been long underpaid and frequently overlooked. The days of job security have been replaced with consolidation, privatization and an ever-shrinking tax base. The article continues urging dispatchers to train at every opportunity, to interact with response agencies, and provide public education. Mr. Carlo also urges dispatchers to “Immerse yourself in the pool of available knowledge”. And to “take pride in your job and promote excellence from within” (p. 6).

Malcolm Woollard (2000) wrote that while being an EMD professional translates to being more than just highly skilled, it is actually a great deal more than that. He continues that a key aspect of being professional is “the moral duty to ensure that high standards of conduct, service delivery, and care are always maintained” (p. 1).

In 1998 Dave Larton expressed his opinion about the implementation of QA programs in communications centers. These QA programs would involve not only EMD, but also all of the calls processed by the dispatch center. A well implemented program combines self-critiquing the efforts of telecommunicators with community input to ensure total quality. Unfortunately the public tends to lag behind industry by several years. Customer service and QA programs are not new concepts, however they have been slow to be implemented in the communications centers throughout the country. If an agency is truly committed to excellence, QA is one of the most effective tools that can be utilized. With an effective QA program, training needs, discipline and performance levels can be readily identified. To have a truly productive QA program that employees will embrace, employee input is vital. Through planned implementation of a participative QA program the entire community will benefit. The dispatch center will also be recognized for their dedication and commitment to quality and performance.

In 1997 Kevin Willett wrote about instilling a sense of customer service in communications center employees. Communication center customer service is merely “treating people the way that you would want to be treated”(p. 38). There have been many 9-1-1-tragedy calls, such as the story of Eddie Pollack, who was killed by a roving gang in Philadelphia, despite several calls to 9-1-1. To change communications centers to a customer service paradigm, there must be commitment and continuing training. The paradigm must begin with initial training and be followed by a sense of vision that is shared with employees. There also must be support including a comfortable work area that is ergonomically and environmentally conducive to 24-hour operations. Employees must have the tools and support necessary for them to succeed. It is equally important to provide a

system of employee recognition and to appreciate and strive for excellence. This can be done via a newsletter, newspaper or other media, but it must be done. In addition to public recognition, there must be some ongoing public relations. This could be in the form of an open house, 9-1-1 education programs, and press releases etceteras.

According to the (NENA) National Emergency Number Association web site, (ENP) Emergency Number Professional certification is a benchmark of performance that shows a diverse competence in the professional field of telecommunications. The ENP program is designed to accomplish the following three main criteria: 1. To demonstrate a comprehensive knowledge base required for mastery for 9-1-1 program management. 2. To increase the respect and prestige of those involved with 9-1-1, and to raise industry standards. 3. To commit to remaining current with communications issues, and to demonstrate leadership and commitment to public safety. The ENP certification committee was first formed in 1992.

A prerequisite for communications personnel interested in the ENP program is three years in a supervisory or management position within a communications center. Additionally candidates must satisfy a certain point requirement prior to being allowed to take the certification exam. These points are accumulated with a combination of college degrees, completing other educational criteria and serving in a leadership role in NENA. The main goals of the program include establishing a core knowledge value for ENPs and to establish a standard of competence that will be widely recognized. Other goals include ensuring that communicators are aware of current issues and technologies and formal recognition of those who complete this professional achievement. This can serve to enhance the self-esteem and encourage professional growth of those who participate in the program.

In 1998 Kevin Willett wrote about the importance of training for civilian dispatch supervisors. Mr. Willett begins that training, communication, honesty, integrity and ethics are essential foundation for any supervisor. He continues that while there are not very many supervisory courses available, supervisors must be

trained to effectively perform their duties. Supervisors may be required to self teach via trade magazines and books on leadership. It is essential that supervisors spend time interacting with their team to maintain open communications. Supervisory training opportunities are frequently available through trade shows such as APCO and NENA conferences. These conferences also provide the participants with the tools to remain current on trends affecting employee and technology expectations.

Technology Enhancements to Improve Communication Center Capabilities

According to W. Brant Howard (1999) the Littleton Fire Department, Littleton, Colorado implemented AVL (Automatic Vehicle Location) technology to reduce response times and radio traffic. With an AVL system, dispatchers know instantly where all Fire and EMS units are as displayed on the CAD mapping system. The Littleton AVL system provided a communication system linking field units and dispatch, accurate mapping data, integration to CAD software and also GPS (Global Positioning System) based vehicle location and status information.

Linda DiLauro (2000) wrote expressing her enthusiasm regarding a new digital network recording appliance technology. She states that “the open, distributed-component architecture of the network appliance not only offers protection from technological obsolescence but also lets them leverage their technology infrastructure for maximum performance”(p. 119). The utilization of standard audio file formats coupled with the open architecture design allows recording to become “plug & play” devices. This technology allows voice files to be accessed over secure internet access, and allows public safety agencies to email wave file recordings instead of making and retrieving cassette tapes. This technology also makes call review much faster, easier, and more thorough. This is particularly important when conducting quality assurance reviews, or when an agency needs a recording immediately.

Mark Gallant (1999) wrote of system integration technologies that are being utilized to aid telecommunicators. One area of integration allows call flow from “9-1-1, CAD (computer aided dispatch), call-checks, TTY (tele-typewriter), mapping and third party database applications with a singles system”(p. 46). This enhancement allows for dispatchers to seamlessly take a 9-1-1 call, have it entered in the CAD, start an incident report, locate the caller, and with mapping applications locate the nearest response units. These steps include assigning call priority, and are done quickly with some simple keystrokes and mouse clicks. While there has been an increase in technology, there has also been a reduction in equipment. This change offers enhanced ergonomics providing increased dispatcher comfort, with less stress and strain. Mr. Gallant continues that to achieve full system integration it requires a coordinated activity involving service providers, multiple vendors, hardware suppliers, and support. However, failure to utilize integration makes the various systems unwieldy, “By using the power of an open platform that supports and interfaces to multiple applications, we have a system that now puts all the controls right at our fingertips. CAD/9-1-1 integration is the future”(p. 48).

Imel and Hart (2000) explain a number of the technological, planning and management issues regarding public safety communications issues. There are a wide variety of methods to communicate between public safety entities. Some of the basic choices involve whether the communications will be voice or data, or a combination of the two. The next determination involves a choice between digital or analog technologies. The FCC (Federal Communications Commission) has assigned certain public safety ranges or bands. These are as follows: VHF (Very High Frequency), low band 25-50 and 72-76, VHF high band 15-174, UHF (Ultra High Frequency) 450-512, UHF 750,800,900, and 2Ghz (2 Giga hertz) 2,000. The more frequencies in a given channel is directly proportional to the width of the channel (bandwidth), and the more information it can transmit. There have been initiatives such as the FCC refarming issue to reduce bandwidths and increase efficiency. Each frequency range has an application that it is better suited for. As many agencies have opted to pursue different avenues, interoperability issues have had a tremendous impact on public safety, particularly on

large-scale incidents. Initiatives such as APCO project 25 have attempted to develop a digitally trunked radio system specification that would be specifically tailored to public safety requirements, which will reduce some inter-operability problems.

In the FEMA USFA *Communications Manual* several technology enhancements are mentioned that aid in modern communications centers. One technological enhancement is the utilization of Mobile Data Communications. Mobile data communications permit the communications center to communicate with the fire, EMS or police units in the field. These communications alleviate misunderstood voice messages and also provide for increased privacy. A text alphanumeric message can be delivered in about 5 seconds, while a voice message may take a minute and half.

Recommending Changes to Public Safety Communications Centers

In 1997 Robert Brown wrote that the key to providing dispatchers with the necessary skills to increase customer service persona involves training and discipline. The article states it is essential that dispatchers be provided with the training, feedback and progressive discipline to retain a customer service atmosphere. Training and positive feedback need to be ongoing endeavors.

According to Jerome Ozog (1995) it is essential that customer service must be a top priority in any of today's emergency service organizations. Both the agency's internal and external customers ultimately determine the success of this customer service program. Customer service is essential for emergency agencies. During emergency situations the tensions of both the public and public safety increase. This increase in tension causes a corresponding increase in the risk of poor service.

In 1991 Robin Paulsgrove wrote that the fire service “ must work customer service into every phase and planning and service delivery”(p. 52). It is often the demeanor of how the public is handled on the phone that

will shape the customer's view of an organization and how professional it is. It is essential to promote interpersonal skill training to those who regularly interact with the public.

Kevin Willett (2000) wrote that it is time to work towards eliminating the single person dispatch centers as they are ineffective. The primary reason for the change is for better dispatcher working conditions. Enhanced responder safety, improved community service, and reducing community expenditures are additional benefits. Through effective consolidation, working conditions can vastly improve. This includes basic amenities such as providing for bathroom and meal breaks. Mr. Willett also suggests that APCO project 37, establishing minimum 911 training standards be supported. He describes the folly of a society that has minimum training standards for hairdressers but has virtually no minimum standards for 9-1-1 dispatchers.

Francis Holt (1999) wrote that this is a transitional period for dispatcher training. In the past on the job training was often deemed to be sufficient. This is no longer the case, on the job training now serves only as a basic foundation for the other training a telecommunicator will receive. Dispatching will continue to require a much higher level of competency in the future. "Like all other professions that deal with critical aspects of a dynamic society, public safety dispatching will see that continuing education is necessary for re-certification. In the next decade training needs and opportunities will be dictated by technology, new media, demographics, intranets and internets. There is also an initiative to certify trainers and dispatchers to minimum accepted standards.

The information provided in the literature review aids in explaining some of the multitude of factors that are effecting dispatch centers not only in Berkshire County but also across the United States. The data obtained through the survey is readily interpreted, particularly when coupled with the information provided in the literature review.

PROCEDURES

Historical and descriptive research methods were utilized through several areas of research. These areas included literature review, personal correspondence, personal interviews, and survey instruments.

Literature Review

The literature searches were initiated at the National Emergency Training Center's (NETC) Learning Resource Center (LRC). This was during the author's attendance in the Executive Development class at the National Fire Academy. A subsequent request for additional information was made in May of 2000. Extensive searches were also conducted via the internet to several web sites including but not limited to APCO, NENA, PSCT, FEMA, etc. The Authors library of fire, EMS, Law Enforcement and communications publications were also utilized.

Personal Interviews and Correspondence

Personal interviews were conducted with various police, fire, EMS and communications professionals from Berkshire and Franklin Counties. Additionally seminars were attended at the APCO annual conference in Boston, Massachusetts from August 13-17 2000. Interviews were conducted via telephone, fax and email as well as in person.

Survey Instruments

The survey instruments were developed by the Author and distributed to fire chiefs in Berkshire and Franklin Counties through their respective chief's association. Franklin County Fire Chiefs were chosen to provide contrast and comparison. Franklin County and Berkshire County are the two most similar counties in the Commonwealth of Massachusetts in regards to fire department size, type and staffing. There are 28 fire departments in Franklin County and 30 in Berkshire County. The author received 17 responses from each county. The surveys were distributed in June of 2000. Any department not responding prior to August 30, 2000 was considered a non-respondent. All information was then tabulated, compiled and transferred into a *Microsoft Word 1997* format.

Assumptions and Limitations

The project was limited in scope by the fact that there was only approximately 50 % response from each county. Franklin County only has three PSAPs, while Berkshire County has eight. Only the fire service leaders in each county were solicited for opinions. The EMD questions perhaps were a little too broad based and did not solicit all the information required. Another question should have been asked such as does your PSAP do EMD?

If the Author were able to solicit the opinions of the dispatchers at each PSAP, they could have provided a clearer picture of system factors both positive and negative. Unfortunately due to political reasons these interviews could not be conducted. However several dispatchers were contacted via phone and in person for basic PSAP information. Another limitation was that of time, as only six months were available due to Executive Fire Officer Program guidelines.

A large percentage of the information is very new, some of which was collected in August and September 2000. The APCO information, while pertinent, also lists some of its own limitations. The APCO staffing crisis project is not yet completed; however there is definitely a staffing crisis nationwide. How it is to be best resolved has yet to be determined.

Only the Fire service leaders in Berkshire and Franklin Counties were surveyed. This survey did not include the firefighters and other officers. The dispatcher surveys conducted by APCO were national in nature and not just local, however a lot of the information would appear to be pertinent. The public as a whole was not interviewed as to PSAP satisfaction. The standard of care and public perception is derived strictly from articles that have been published on the subject.

The census information was obtained from the United States Census web site. This information is always subject to change and has a certain margin of error. These figures only pertain to year round residents as well. The communities of Williamstown and North Adams both have a large college population throughout the year. Berkshire County has a fairly large tourist and transient population due to various cultural and tourist attractions, and its proximity to Boston and New York.

Definition and Clarification of Terms

APCO- The Association of Public Safety Communicators Organization International. This organization is dedicated to providing training, support, and leadership to public safety communication issues around the world.

AVL-Automatic Vehicle Location, is a system for locating a vehicle on a computerized mapping system. This enables dispatching the closest units, and tracking their response.

BOP- Board of Probation queries are designed to provide information as to whether a person has ever been charged with a crime and the disposition of the charges.

CAD- Computer Aided Dispatch systems include a multitude of mapping, records management, dispatching and other software.

CMED- A position designed to implement control over medical channels, coordinate mass casualty incidents, contact ambulances and hospitals.

EMD-Emergency Medical Dispatch, this refers to the processing of emergency medical calls to determine the level of the call response and to provide pre-arrival instructions to on scene callers.

EMS- Emergency Medical Services refers to all the agencies that participate in the handling of a medical emergency.

EMT- Emergency medical technicians provide pre-hospital emergency care to patients.

ENP- Emergency Number Professional refers to professional dispatcher certification by NENA

GPS- Global Positioning Systems provide up to date information about the location of units.

III- Triple I checks are designed to provide information about whether a person has ever been charged with a crime and the disposition of the charges in approximately 30 states.

NENA- The National Emergency Number Association. This association is committed to issues involving 9-1-1, promotion of 9-1-1, and dispatcher training and support.

PSAP- A public safety answering point. Typically thought of as a 9-1-1-dispatch center, taking 9-1-1 or emergency calls and either dispatching them or transferring them to a dispatch agency.

PSTC- Public Safety Training Consultants is a company that is focused on dispatcher training

TTY- A tele-typewriter is a device that permits the deaf and hard of hearing to type messages to the PSAP and other TTYs to communicate.

RESULTS

What factors, positive and negative, presently impact the delivery of dispatch services in Berkshire County dispatch centers?

Berkshire County has several small one person dispatch centers that are not cost effective, and are inefficient. Many provide a level of service that is below what is considered to be acceptable by the public and public safety agencies. No dispatch centers in Berkshire County have a fully implemented EMD program with companion QA/QI programs. The level pay for communications personnel is inadequate to attract and retain many individuals for full-time employment. The average starting pay for the non-sworn communications personnel in Berkshire County is \$ 9.82 per hour. Currently there are no dispatch centers in Berkshire County that have an ongoing continuing educational program to keep the dispatchers adequately trained and motivated.

When the Berkshire County Fire Chiefs responded if they were aware if their PSAP EMD'd their medical calls sixteen were unaware, and one was aware. Conversely in Franklin County fifteen were aware of EMD status and only two were not aware. When asked if their PSAP staff was EMD trained, whether all calls were EMD'd, eleven of the Berkshire County respondents replied they were unaware and six replied negative. In contrast in Franklin County six replied affirmative, six replied negative and five were unaware.

When the Berkshire County Fire Chiefs replied pertaining to the perception that police received preferential treatment, twelve replied affirmative. Of the Franklin County respondents, eight indicated they believed that police received preference. The Berkshire County when asked if their PSAP had a plan for the future to provide better service fifteen replied they were unaware. In Franklin County thirteen were unaware of a plan for future improvements. The Berkshire County Fire Chiefs when asked if their fire department provided any dispatcher training, sixteen replied negative and only one replied yes. Four of the Franklin County Fire Chiefs replied affirmative and thirteen replied negative

What have other dispatch centers done to improve dispatch services, particularly in the area of fire & EMS?

Dispatch Centers across the country have adopted a number of practices to improve the delivery of services. In adjacent Franklin County there is a much higher overall satisfaction with the delivery of services. This translates to an estimated or perception of overall quality of PSAP service at 84.7 as compared to 65.7 in Berkshire County. Franklin County staffing levels are higher; fully implemented EMD & QA programs are in place. There is an emphasis on continuing education to ensure the dispatchers are competent, professional and educated. In Franklin County the primary PSAP also publishes a fire equipment list, encompassing all fire and rescue equipment available in the area, which is updated annually. Additionally, the primary PSAP issues an annual report that provides statistical information and represents the future direction of the PSAP.

What technologies, equipment, or processes are available to improve dispatch service?

There are a host of new technologies available that drive changes in all aspects of dispatch services. These include AVL and computerized mapping which permits dispatching of the closest units and vehicle tracking. Mobile data terminals improve frequency utilization, increase privacy, responder safety and reduce miscommunications. Digital recordings enhance the ability to conduct post-incident analysis, and quality assurance. This also makes it possible to transmit a recording via email as a wave file. System integration is necessary to assure that various applications cooperate and co-exist. This assures the dispatchers may effectively perform the function of a multitude of systems with a minimum of effort. Currently only three of the Berkshire County respondents could communicate with their PSAP via computer, thirteen could not and one did

not know. In Franklin county thirteen could not, two were not aware and one could communicate with their PSAP via computer.

What is considered to be an acceptable standard of care for dispatch centers?

The public has an expectation that if they are in a life-or-death situation that the dispatcher will guide them through pre-arrival instructions until responders arrive with some type of an EMD program. The public and responding agencies expect to be treated with respect and a customer service attitude. It is expected that dispatch centers will be adequately staffed and dispatchers adequately trained to acceptable standards. This perception is reinforced daily by television and print media.

The contrasting numbers between Berkshire and Franklin Counties indicate that there many factors that are involved with emergency communications and a standard of care. These factors include call handling on a variety of call types, technology, staffing, training, salaries, supervision and numerous other factors. The way these factors are managed has a direct correlation to the quality of communications provided to the fire service.

Berkshire County Fire Respondents Ratings

The 1999 census shows the population of Berkshire County at 133,424. There are 30 fire departments in Berkshire County, Massachusetts.

| Questions for Fire & EMS Services: (please circle answer below) | Yes, No, Unknown | | |
|---|------------------|----|---|
| Can you communicate with your dispatch center via computer? | 3 | 13 | 1 |
| Does your department provide any dispatcher training? | 1 | 16 | 0 |
| Are you aware if your dispatch center EMD's your medical calls? | 1 | 14 | 2 |

| | | | |
|--|----|---|----|
| If your agency is EMD trained, do they EMD every call? | 0 | 6 | 11 |
| Do you ever feel that police calls get preferential treatment over Fire & EMS? | 12 | 2 | 11 |
| Does your PSAP have a plan for the future to provide better services to your agency? | 0 | 2 | 15 |

Please rate the following with 1 being worst and 10 being best response average

| | |
|---|------|
| How would you rate your PSAP on processing administrative calls? | 7.65 |
| How would you rate your PSAP on processing mutual aid calls? | 7.37 |
| How would you rate your PSAP on processing routine Fire & EMS calls? | 7.55 |
| How would you rate your PSAP on processing emergency calls? | 7.68 |
| How would you rate your PSAP on processing high profile emergency calls? | 7.82 |
| How would you rate your PSAP on processing multiple calls simultaneously? | 7.21 |
| How would you rate your PSAP on processing your requests for service? | 7.29 |
| How would you rate your PSAP on having up to date technology? | 7.35 |
| How would you rate your PSAP on overall quality of service? | 6.57 |

Respondents were asked to indicate what factors both positive & negative impact their current dispatch center.

They were also questioned about what changes such as: technology, equipment, staffing, consolidation, supervision, training, salaries etc., need to be implemented to improve delivery of dispatch services.

Berkshire County Respondents Comments:

There is a need for more detailed dispatch information to be provided to responders.

Eight respondents suggested increasing staffing levels at the PSAPs. Three respondents suggested that dispatchers incur more training. There were comments about the many radio dead spots, providing for poor coverage throughout the county. One agency experienced problems with fire alarm dispatchers being made into telecommunication officers and under the control of the police department. This change affords the fire department with little input in communications center operations. Three respondents indicated that they thought dispatchers needed to be paid more for what they do.

To contrast and compare an identical survey was distributed to the fire chiefs in Franklin County. The results are listed below.

Franklin County Fire Respondents Ratings

The population in Franklin County, Massachusetts is 70.806. There are 28 fire departments in Franklin County.

| Questions for Fire & EMS Services: (please circle answer below) | Yes, No, Unknown | | |
|--|------------------|----|----|
| Can you communicate with your dispatch center via computer? | 1 | 13 | 3 |
| Does your department provide any dispatcher training? | 4 | 13 | 0 |
| Are you aware if your dispatch center EMD's your medical calls? | 15 | 0 | 2 |
| If your agency is EMD trained, do they EMD every call? | 6 | 6 | 5 |
| Do you ever feel that police calls get preferential treatment over Fire & EMS? | 8 | 4 | 5 |
| Does your PSAP have a plan for the future to provide better services to your agency? | 2 | 2 | 13 |
| Please rate the following with 1 being worst and 10 being best | response average | | |
| How would you rate your PSAP on processing administrative calls? | 7.65 | | |
| How would you rate your PSAP on processing mutual aid calls? | 8.18 | | |
| How would you rate your PSAP on processing routine Fire & EMS calls? | 8.21 | | |
| How would you rate your PSAP on processing emergency calls? | 8.53 | | |
| How would you rate your PSAP on processing high profile emergency calls? | 8.32 | | |
| How would you rate your PSAP on processing multiple calls simultaneously? | 7.35 | | |
| How would you rate your PSAP on processing your requests for service? | 7.29 | | |
| How would you rate your PSAP on having up to date technology? | 7.25 | | |
| How would you rate your PSAP on overall quality of service? | 8.47 | | |

Franklin County Respondents Comments:

Respondents were asked to indicate what factors both positive & negative impact their current dispatch center. They were also questioned about what changes such as: technology, equipment, staffing, consolidation, supervision, training, salaries etc., need to be implemented to improve delivery of dispatch services.

Franklin County comments included the suggestion of more interagency training. Additionally it was suggested that there be more information provided to responders. Another suggestion was that there be an improvement in inter shift continuity

DISCUSSION

The literature search revealed several very interesting pieces of information. A search of the extensive LRC articles and documents indicated a total of only three articles involving customer service and communications centers. A search of customer service and the fire service revealed a multitude of articles on the subject. However reviewing approximately twenty-five articles on this subject, few if any inferences were made to the communications center aspects of customer service.

There are numerous different factors that impact the fire service, and communications certainly holds a vital role. It was not expected that there would be any easy answers in regards to the research that was conducted. However there are a myriad of communication center issues that can be easily linked to parallel fire service issues. A customer service paradigm is essential to any public service agency, it is not possible for the fire service to have a successful customer service program without incorporating the communications center into the program. A similar correlation can be drawn to an EMS system, a comprehensive EMD program with a QA component is essential for an effective EMS system. Without joint interagency training it is difficult for

fire, EMS, law enforcement and communications personnel to fully understand each other's role. Without the baseline role understanding and continuous training, it is very difficult for organizations to operate in an efficient, competent and cohesive manner.

Interpretation

There are multitudes of issues that affect communications center across the country presently. Many of these issues are identical to issues in Berkshire County. These issues have a direct relationship to the daily operations of the fire service as well as the police and EMS services. A failure to address these issues jeopardizes public safety.

There is a nationwide staffing crisis that is being experienced by communications centers for a number of reasons. Several of the respondents indicated they felt staffing levels in Berkshire County PSAPs were inadequate to handle the call volume. In the majority of the Berkshire County dispatch centers, there are no working supervisors dedicated to communications.

The level pay for communications personnel is inadequate to attract and retain many individuals for full time employment. The average starting pay for the non-sworn communications personnel in Berkshire County is \$ 9.82 per hour. This pay level is grossly inadequate for the level of responsibility amassed.

Implications

The implications are several, initially it must be understood that a PSAP must be adequately staffed if it is going to effectively serve the public and public safety. To attract candidates to adequately staff a PSAP a level of pay commensurate with responsibility must be established. Training of PSAP personnel must include a thorough initial training and continuing education to keep personnel motivated, energized and professional.

It is not possible for a fire service agency to embark on a customer service program without including PSAP personnel. The PSAP personnel in several instances may be the public's only point of contact with the fire service. The fire service in many areas is remiss in providing fire and EMS training to PSAP personnel. This lack of direct contact may cause a perception that the fire service is second to law enforcement, when that may not be the case. There is a general discontent with several of the PSAPs in Berkshire County. The fire service implications for this is that the fire service may often be represented in a negative manner due to the communications personnel that are under paid, under staffed, overworked, and under supervised. These factors are often most clearly demonstrated at large scale mutual aid incidents.

RECOMMENDATIONS

Based on the research the following recommendations are made.

Berkshire County public safety agencies should investigate the possibility of consolidation of resources in regards to public safety dispatching. Single person PSAPs are inefficient, and do not provide the level of service that many agencies and the public have come to expect.

EMD is an expected service, and a standard of care expected by the public and public safety. EMD should be fully implemented in Berkshire County. This implementation must include quality assurance and quality improvement programs to ensure EMD conformance & effectiveness.

The pay rate of dispatchers must be sufficient to attract and to retain high quality personnel. The pay rate that is currently being paid throughout Berkshire County is not sufficient for this purpose. The pay received must be commensurate with the level of responsibility.

Dispatchers must have the experience of a solid comprehensive initial training program. Upon completion of initial training, a continuing current and pertinent training program should be instituted. The dispatchers must receive training on a continuing basis to remain current, energized and professional.

The staffing levels must be sufficient to provide service under adverse conditions. Significant improvements must be made to working conditions to reduce employee turnover and increase employee retention. Secondly staffing levels must be reviewed to ensure the level of staff required is adequate based on an unbiased formula.

The Public safety agencies should seek to professionalize the PSAPs. Issues such as customer service education and continuing recognition must be in the forefront. Adhering to National accreditation standards, seeking formal accreditation from CALEA & Medical Priority should be paramount. Certification of dispatchers and supervisors to demonstrate conformance to a recognized educational benchmark must be standardized. Ensuring that dispatchers are recognized for their efforts is essential.

The PSAPs should embrace technology to provide the highest level of service economically feasible. Technological innovations such as computer mapping, AVL, and GPS can aid a dispatch center in providing directions, dispatching closest units and providing the best service to the public. System integration can provide dispatchers with the ability to perform multiple functions with minimum effort. Mobile data terminals can provide a communications link directly between the dispatch agency and units to provide for increased patient confidentiality and responder safety.

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Appendices Not Included. Please visit the Learning Resource Center on the Web at <http://www.lrc.fema.gov/> to learn how to obtain this report in its entirety through Interlibrary Loan.